

Form IIB
1977-78

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Year 5



Parents' National Educational Union

Murray House, Vandon Street, Buckingham Gate, London SW1H 0AJ

THE PNEU SCHOOL

EDUCATIONAL PROGRAMME 87

This Programme is designed for use only with pupils in PNEU Schools and in the Home Education Division. It must not be lent or used for any other purpose.

"Children are born persons" — Charlotte Mason
PNEU Motto: "I am, I can, I ought, I will"

GENERAL NOTES

CONTENTS

This Programme sets out the syllabuses and book lists for the year. The Teacher's Handbook is complementary to it and should be studied before the Programme is put into use.

Essential books are printed in capitals. Other books are optional but would be valuable for supplementary or reference purposes.

The Programme for each form is planned to cover one year's work, divided into 3 terms of 12 weeks each. As enrolments occur throughout the year, new members will normally begin with Term 1 and complete an assessment report on Form R5 before beginning Term 2.

SUPPLIES

Books

An adequate range of books is essential for the PNEU course. The initial books required will be supplied by PNEU tutors and despatched to members overseas by surface mail or, if requested, by air mail. The appropriate postal and handling charges will be debited. Members going abroad are advised that books should be obtained before departure if possible.

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Subsequent requirements of books may be ordered from the PNEU by post on Form R7. 25% of the cost of the books should be added to the payment for postage and handling if sent by surface mail, and 75% if required to be sent by air mail.

Members may find that some books are unobtainable and alternatives will be sent in their stead.

The price given in the Programme is that in force at the time of going to press.

Materials

A list of the educational materials required is set out in Appendix 1. They may be obtained from any firm of educational suppliers. Harrods (Export Department) would be able to supply most of the requirements.

Families going overseas are recommended to obtain these materials before departure.

THE TEACHER'S HANDBOOK

This is a condensed guide to the theory and practice of home teaching which should be used in conjunction with this Programme. It contains advice on how to understand the growing child as well as on how to teach him. Each subject is dealt with in a separate section. It has been kept brief so that even the busy parent can study it.

ASSISTANCE IN TEACHING

The circumstances under which home teaching takes place vary enormously. Parents are advised to seek assistance from friends and colleagues wherever it is appropriate. Not only is a subject or a hobby taught by another person a welcome change but real ability can in this way be harnessed, whether it be mathematical, technical or musical.

THE CURRICULUM

The PNEU course deliberately covers a broad range of subjects. Our aim is to produce soundly educated children who will develop into mature, cultured adults. The PNEU child is marked by a high standard of literacy, mathematical competence, a wide field of knowledge and an enquiring mind.

At this stage, the child will not 'study' subjects but will read, listen to and talk about stories, will make models and articles related to the subjects and will act, mime, paint and draw to acquire a better understanding of each topic.

In Year 5 children will be able to read most of the textbooks for themselves but literature books may be read aloud by the parent or teacher. Children should be encouraged to narrate (see Teacher's Handbook pp. 7-9) the substance of what has been read.

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TESTS

Test papers (with answers) in English, Mathematics and General Knowledge will be supplied as part of the course.

THE PNEU JOURNAL

The PNEU Journal is issued quarterly and contains articles of general educational interest as well as information on PNEU.

RECORDS

In the United Kingdom, local education authorities are required to satisfy themselves that the education of all the children in their area is adequate. Parents responsible for home-school pupils must keep a Record of Work and an Attendance Register as they may receive visits from LEA Inspectors or Education Welfare Officers. In some other countries similar conditions may be encountered.

SYLLABUS

RELIGIOUS KNOWLEDGE

Use any edition of the BIBLE. The New English Bible and other modern translations are particularly appropriate.

Wherever possible correlate your work with Art, English, Nature Study and other subjects.

Modern translations of the Bible: The New English Bible — illustrated edition (British and Foreign Bible Society, £1.00). The Jerusalem Bible — School Edition (Darton, Longman & Todd, £2.00)

Old Testament

Term 1: Joshua

Term 2: Judges chapters 2-16

Term 3: I Samuel chapters 1-17

continued on page 5

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TIME-TABLE

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9.00 – 9.30	Religious Knowledge	Religious Knowledge	Creative Writing	Religious Knowledge	Religious Knowledge
9.30 – 10.00	Mathematics	Mathematics	Mathematics	Mathematics	Mathematics
10.00 – 10.30	History	English Language	History	Geography	Literature
10.30 – 10.50	BREAK				
10.50 – 11.10	French or Dictionary Work	Writing	Dictation	French or Project Work	Writing
11.10 – 11.40	Literature	Outdoor Geography	Literature	English Language	Leisure Reading
14.00 – 14.30	Music Appreciation or Singing	Picture Study	Nature Walk	Art and Craft	Science
14.30 – 15.00	P.E.	Art and Craft	Nature Walk	Art and Craft	Science
15.00 – 15.30	P.E.	Art and Craft	Nature Paintings & Notebook	Singing	P.E.

New Testament
Term 1: St. Mark chapters 1-8
Term 2: St. Mark chapters 9-16
Term 3: Acts chapters 1-8

ENGLISH

Language

At this stage a child should be **able** to do all the written work required by the Language book set but this will probably be unnecessary as some exercises can be very satisfactorily done orally. Some oral work should always precede a written exercise.

EXPLORATION ENGLISH, BOOK 4 by J.C. Gagg (Evans, £1.18)

Term 1: pp. 5-25

Term 2: pp. 26-45

Term 3: pp. 46-64

or, for those who have copies, BETTER ENGLISH, BOOK 4

Term 1: pp. 5-43

Term 2: pp. 44-81

Term 3: pp. 82-120

Highly recommended: A Children's Working Dictionary by A. J. Arkley (Nelson, £1.12) and Let's Work with the Dictionary (Nelson, 59p)

For more formal grammar: First Grammar Lessons by Charlotte Mason, Parts 1 & 2 (PNEU, 10p each).

Practice and reference

Pupils who have used the earlier books in the Everyday Writing series by Ruth Fagg should use for writing practice Book 4 (U.L.P., 59p) and Book 5 (U.L.P., 56p).

Spelling and dictation work may be done from the later part of Essentials in Teaching and Testing Spelling by F. J. Schonell (Macmillan, 59p).

For reference: The Little Oxford Dictionary (£1.40)

Creative Writing

IMAGINE AND WRITE by Wallace Eyre (Blackwell, £1.00)

Suggestions for dealing with this subject are to be found in the Teacher's Handbook.

Literature

Legends

THE HEROES OF ASGARD by A. & E. Keary (Macmillan, £1.80)

Term 1: The Aesir and how Thor went to Jotenheim

Term 2: Frey, the Wanderings of Freyja and Iduna's Apples

Term 3: Baldur to the end

Set Fiction

Choose at least one book each term.

Term 1: THE CRICKET IN TIMES SQUARE by George Selden (Puffin, 45p)

LITTLE HOUSE ON THE PRAIRIE by Laura Ingalls Wilder (Puffin, 50p)

THE TWELVE AND THE GENII by Pauline Clarke (Puffin, 60p)

Term 2: BROTHER DUSTY-FEET by Rosemary Sutcliff (Oxford, £1.40)

THE TRAVELS OF OGGY by Ann Lawrence (Piccolo, 40p)

STIG OF THE DUMP by Clive King (Puffin, 40p)

Term 3: THE RAILWAY CHILDREN by E. Nesbit (Puffin, 55p)

THE BORROWERS by Mary Norton (Dent, 50p)

THE BOX OF DELIGHTS by John Masefield (Piccolo, 60p)

Poetry

THE SHELDON BOOK OF VERSE 1 (Oxford, £1.42)

The Puffin Book of Verse (50p)

Shakespeare Plays — for Schools only

Term 1: As you Like It

Term 2: Macbeth

Term 3: Twelfth Night

Leisure Reading

Danny the Champion of the World by Roald Dahl (Puffin, 50p)

High Water at Catfish Bend by Ben Lucien Burman (Puffin, 25p)

The Night-Watchmen by Helen Cresswell (Puffin, 35p)

Rupert Hatton's Tale by Norah Lofts (Carousel, 25p)

The Bookshop on the Quay by Patricia Lynch (Puffin, 40p)

Greyfriars Bobby by Eleanor Atkinson (Puffin, 35p)

MATHEMATICS

Children should be trained from the outset to date and label all work.

The teacher should insist that all working be set down in a logical and orderly manner. Many children at this stage are able to do a great deal of the work mentally but it is essential for future learning that they learn to write down mathematically the steps in their thinking. Many children will consider this a waste of time but it should be pointed out to them that it is necessary to train themselves gradually in this way. In Mathematics mistakes cannot be found and rectified unless the working is visible.

Every child must have sufficient practice at each stage for the process concerned to become automatic. The book should supply adequate practice but more may be needed occasionally. Making up suitable questions or exercises will usually present no difficulty but, if further help is required, the tutor should be contacted.

All tables should be known thoroughly by this age. If they are not, the teacher should make sure they are learned soon, and, if necessary, a table-square should be used in the meantime.

Incorrect answers may occur at this stage because figures have not been placed in the right column. This means that place value has not been properly understood and time should be spent correcting this.

Sometimes children who have been working well, come to a point where unexpected difficulty is encountered. This is often caused by insecure foundation work of the process concerned. When this occurs go back to the beginning and work through, until the point of not understanding is reached and teach from there.

Teaching

It cannot be assumed that a process has been grasped until some time has elapsed and a check made. The steps for teaching and testing are:—

- (a) teach the process
- (b) practise the process
- (c) a week or so later, revise the process — it may have to be re-taught.
- (d) repeat (c) until mastery appears to have been gained
- (e) test the process
- (f) re-test from time to time

Problems

The child should be trained to:—

- (a) read through the whole question
- (b) think what it means

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- (c) re-read it carefully and decide what has to be done. There are only four possibilities: addition, subtraction, multiplication or division

— is a larger answer expected? then + or \times
 — is a smaller answer expected? then — or \div

- (d) if more than one process is required for solving the problem, break it down into steps and solve each in turn, writing down each step as it is thought out

- (e) re-read the question and check that the answer given is the answer required.

Check list

The check list is provided so that processes may be marked off as they are understood and can be applied. It is not expected that all children will be able to manage all the processes covered by the end of the year. It is something at which to aim and will draw attention to weaknesses.

Mechanical Arithmetic

Use 4 rules of number + — $\times \div$

h.t.u. with carrying figures

th. h.t.u. with carrying figures

pounds, pence, halfpence (or local money)

Long multiplication

Long division

Long division with nought in quotient

Read numbers to tens of thousands

Know place value to ten thousand, i.e.

u t h th
 674 542 3402 4782

Add on 10 100

Subtract 10 100

Multiply by 10 100

Divide by 10 100

Multiply and divide by 0

Arrange numbers in order of magnitude

Cope with simple bills (English or local money)

All tables to 12 times

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Fractions

Recognise and shade one whole to show:—

$\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{4}$ $\frac{3}{4}$ $\frac{2}{3}$ $\frac{1}{5}$ $\frac{4}{5}$ $\frac{1}{6}$ $\frac{5}{6}$ $\frac{1}{7}$ $\frac{1}{8}$ $\frac{5}{8}$ $\frac{1}{9}$ $\frac{7}{9}$ $\frac{1}{10}$ $\frac{9}{10}$ etc.

Equivalent fractions, i.e. $\frac{2}{3} = \frac{4}{6}$

Cancel up to a denominator of 24

Equivalent fractions — decimals

$\frac{1}{10} = 0.1$ $\frac{7}{10} = 0.7$ $\frac{5}{10} = \frac{1}{2} = 0.5$

$\frac{1}{4} = 0.25$ $\frac{3}{4} = 0.75$

Convert: — mixed numbers — improper fractions

Time

Tell any time

Know rhyme of months

Know table of time from seconds to years

Read and comprehend time written thus:—

6.45 4.10 10.55 etc.

Read a time table and calendar

Write and interpret birth dates 12.3.1972

Understand and cope with 'fast' and 'slow' clocks

Recognise and construct accurately

Squares — rectangles — triangles — circles — hexagons

Parallel lines

Vertical lines

Horizontal lines

Right angles

$\angle 30^\circ$ $\angle 60^\circ$ $\angle 45^\circ$

Draw lines and measure lines accurately

Read and use scales — 1cm: 5m etc.

Appreciate symmetry

Find perimeter and area of regular shapes

Recognise and comprehend 'square numbers' i.e.

$3^2 = 3 \times 3 = 9 = 1 + 3 + 5$

Find the value of x in simple equations

Appreciate the meaning of:—

set = \neq $\{ \}$ \in \notin $<$ $>$ ϕ

Fix a position

Read and construct graphs

ALPHA MATHEMATICS, BOOK 3 by Goddard & Grattidge (Schofield & Sims, £1.06) with ANSWER BOOK (80p)

Term 1: pp. 1-31

Term 2: pp. 32-61

Term 3: pp. 62-92

or, if a pupil is having difficulty with this subject and needs to work at an easier pace, BETA MATHEMATICS, BOOK 3 by Goddard & Grattidge (Schofield & Sims, £1.06) with ANSWER BOOK (80p)

Term 1: pp. 1-31

Term 2: pp. 32-61

Term 3: pp. 62-92

HISTORY

A time chart will greatly help to develop a pupil's sense of time. It is well worth trying to find a fairly large stretch of wall somewhere in the house, or at least under cover, and using it for this purpose.

A pupil who is to spend several years in the home schoolroom will derive much help and pleasure from a time chart and it is possible to benefit from it, even in one year. Attention should be drawn to what has previously been seen or heard so that this is incorporated with newly acquired knowledge and gradually a background of historical knowledge is built up.

To make the chart, a horizontal line should be painted or pinned on, so that pictures and written work can be pinned on both sides of it. Label the line in centuries (or ages for prehistory) but make the labels movable so that extra space may be available when required. The child's own work may be put up and magazine pictures, postcards, picture cards, etc. may all be used. Many items may be incorporated apart from straightforward historical studies, e.g. environmental details, scripture, book reviews of historical tales, poems, architecture, exploration, inventions, etc.

GREAT PEOPLE OF MODERN TIMES by R.J. Unstead (Black, 94p) and QUEEN ANNE TO QUEEN VICTORIA by R.J. Unstead (Black, £1.12).

Both books should be used throughout the year. The suggested division over three terms is as follows:

Term 1: Great People of Modern Times pp. 4-49
Queen Anne to Queen Victoria pp. 5-36

Term 2: Great People of Modern Times pp. 50-109
Queen Anne to Queen Victoria pp. 37-62

Term 3: Great People of Modern Times pp. 110-155
Queen Anne to Queen Victoria pp. 63-95

Pupils specially interested in this subject might also like to read, in the third term. The Twentieth Century by R.J. Unstead (Black, £1.00).

The period covered this year was a time of rapid development and change in all aspects of mankind's life. There is plenty of scope for topic work if this method of approach is preferred to working straight through the books. By now, pupils should be able to write their own notes and produce interesting free writing based on the given facts. Drawings and paintings should be of a good standard and careful attention paid to accuracy. It is always better for a child to attempt to copy a drawing rather than trace it but maps and plans should be traced.

Suggested Topics

1. Roads, road builders, bridges, canals, inns.

2. Public transport:
coaches, stage waggon, sedan chairs,
railways — James Watt, George Stephenson
the underground railway
cabs, buses, trams, aircraft

3. Private transport:
carriages
cars — Henry Ford, William Morris, Herbert Austin
bicycles

4. Shipping:
clippers, steamships
the Navy
submarines, tankers, ocean liners

5. Homes:
housing, furniture, food, gardens,
servants, domestic appliances
street planning, council housing
garden cities, new towns

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6. Costume
7. The Industrial Revolution and after:
 - factories, mines,
 - James Hargreaves, Richard Arkwright
 - Lord Shaftesbury
 - town life for the poor
 - mass production, unemployment, wages
 - Brunel
8. The Post and other services:
 - the Mail Coach, the Post Office
 - Robert Peel, the Police service
 - radio and television
 - pensions
9. Entertainment:
 - fairs
 - seaside and foreign holidays
 - spa towns
 - the London season
 - sports
 - the theatre, the cinema
 - radio and television
10. Social change:
 - the Industrial Revolution
 - John Wesley
 - enclosures
 - housing
 - the Welfare State
 - hospitals and medicine
 - schools
 - slavery — William Wilberforce
11. Wars:
 - the '15' and the '45'
 - the Seven Years War
 - Napoleonic Wars
 - Crimean War
 - the Indian Mutiny
 - the Boer War
 - First World War
 - Second World War
 - soldiers, weapons
12. Inventions and inventors
13. Benefactors
14. Explorers
15. Kings and Queens

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Many of these topics overlap and no pupil should be expected to undertake them all. When possible, the set books should be supplemented by other reference books. The Ladybird series offers a good selection at a reasonable price. Pupils who have a time chart will be able to mount their findings on the chart or special topic books could be made. Every opportunity should be taken to widen the range of information available through magazine articles, postcards, visits, etc.

Many pupils will enjoy finding their facts and then writing as if they were living at that period or taking part in a particular event. Some topics could be covered by the pupil pretending to be a contemporary journalist or a traveller through time. There is scope for model making, collages (to show fashions) and painting.

No pupil should be expected to undertake more than two or three topics each term, if the work is done to a good standard, although a boy or girl who is exceptionally interested may be allowed to do more, as a leisure time pursuit if he or she wishes to do so.

GEOGRAPHY

THE YOUNG GEOGRAPHER, BOOK 3 by Haydn Evans (Wheaton, £1.12)

Term 1: pp. 5-34

Term 2: pp. 35-62

Term 3: pp. 63-97

Ideas for activity work will be found in the textbook.

NELSON'S JUNIOR ATLAS (Nelson, £1.12)

Pupils should be encouraged to use the atlas as this is invaluable training for later studies. However, at this age they cannot be expected to use the atlas unaided and it will be adequate simply to ensure that the child becomes familiar with handling it, notices the shape of countries mentioned and understands what a map is.

SCIENCE

- (a) Work from Science 5-13 MINIBEASTS (Macdonald, £2.06) and CHANGE — Stages 1 & 2 (Macdonald, £1.77).

Minibeasts deals in a fresh and stimulating way with one of the traditional areas of primary science. **Getting help from the Unit** (page 2) explains the arrangement of the material within the text and also how information may be found by using the Index. Since children, when they find animals, usually like to keep them, and as many of the investigations can only be carried out on captive animals, teachers should prepare by first reading chapter 8.

A start might be made by constructing a wormery (as on page 90) and other suitable containers in readiness for the collecting forays. Follow this with some of the investigations described in chapters 5 and 6. Work on life-cycles is outlined in chapter 7.

Teachers faced with the problem of identifying specimens will find some help given in chapter 9.

The theme of the book entitled **Change** is of fundamental importance in science. Children are encouraged to examine various changes; to decide exactly what it is that changes, and are encouraged to examine various changes; to decide exactly what it is that changes, and are encouraged to examine various changes. The introductory pages 1-6 contain much to look for the causes and effects of change. The theme **Change** is discussed in relation to Stage 1 useful information for the teacher. The theme **Change** is discussed in relation to Stage 1 and Stage 2 work. The different aspects of **Change** are set out schematically and the three most important questions children should ask about **Change** are listed on page 3. Three useful charts showing links between topics are given on pp. 8-11. In subsequent pages the work that the children might attempt is printed in brown. A good starting point would be **Changes brought about by Wind** (p. 32) which is best introduced by making kites (p. 30). Chapter 4: **Changes in the Kitchen** contains a great variety of interesting work for the home-based child.

(b) **EXPERIMENTING** by O. Martin (Warne, 59p)

Term 1: pp. 31-53

Term 2: pp. 54-80

Term 3: pp. 3-30

and **WORKING WITH NATURE** by E. Proctor (Black, £1.12) for activity work throughout the year.

There should be as much outdoor observation as possible. Children should be encouraged to find and name flowers, watch animals and birds, and keep a nature diary.

FRENCH (optional)

Audio-lingual course, obtainable through the PNEU only:

BON VOYAGE — Year 3 (records and scripts £6.00 including postage and packing except for air mail).

Year 3 is intended for pupils who have already used Years 1 & 2 of Bon Voyage.

or **JE PARLE FRANÇAIS, BOOK 3** by René Gauthier (Nelson, 50p) for pupils who have already used Books 1 & 2 of the series.

For activity work: **A l'Ecole** by Y.S. Baume (Warne, 21p). **Rondes et Chansons** selected by Sarah Walker (Warne, 48p).

PICTURE STUDY

One artist will be studied each term. Reproductions of pictures by the artist for the term are obtainable from the PNEU Office (PNEU, £1.00 each).

For general approach and method of taking lessons see the Picture Study section in the Teacher's Handbook.

ART & CRAFT

For work throughout the year, choose from the **I CAN DO IT** series by Mell & Fisher (Schofield & Sims, £1.06 each)

Book 1: **PRINTING**

Book 2: **WORKING WITH PAPER**

Book 3: **MODELLING, BUILDING AND CARVING**

Book 4: **MAKING THINGS FROM ODDS AND ENDS**

Book 5: **MAKING PICTURES AND PATTERNS**

These books give step by step instructions for various kinds of Art and Craft work and are also set for Year 6. Each book contains simple activities suitable for this age group and more advanced work for the child who is particularly interested in this subject.

Printing covers: printing with vegetables, rubbers, leaves, cardboard, stencils, paper shapes; printing from plasticine, clay, corrugated card, a tin can; making rubbings; printing monotypes; printing on fabrics; tying and dyeing; making paste patterns.

Working with Paper covers: making things with strips of paper; folding and cutting to make patterns and chains of figures; masks and hats; making lanterns and crowns; paper animals; fishes and birds; spinning windmills and spirals; nets and stretching paper chains and figures.

Modelling, Building and Carving covers: modelling with dough; modelling with clay — making a thumb pot, a pellet pot, a thumb pot animal, making slip, modelling birds and animals, making clay reliefs, making clay jewellery and clay people, making masks, making coil pots, using slabs of clay; modelling with wire; building with cardboard and balsa wood; building and modelling with polystyrene; carving candles; carving with soap; carving a block of plaster.

Making Things from Odds and Ends covers: making and using papier mâché; working on a mould; using rolled newspaper or magazines; modelling with newspaper on a wire framework, making puppets; making a peepshow in a cardboard box; making masks; using string, pipe cleaners and drinking straws; making models and decorations from scrap.

Making Pictures and Patterns covers: using crayons in various ways; chalk and crayon transfers; making rubbings; all kinds of collage; using coloured paper and cellophane for stained glass patterns; painting — using various brushes, all-over patterns, stripe and repeat patterns; mixing paint with sand, paste, sawdust etc; using inks; pictures and patterns without brushes; finger painting; painting from imagination; painting what you see; painting from memory; drawing.

For reference: **Art and Craft in the Primary School** by J. Dean (Black, £2.65). **Young Art** by J.F. Lacey (Van Norstand Reinhold, £2.70).

MUSIC

Music Appreciation (optional)

The work of the composer set for the term:

Term 1: Beethoven

Term 2: Handel

Term 3: Schubert

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Teacher's reference notes for each composer are available from the PNEU on request.

Singing

SING TOGETHER (Oxford, 70p): 100 songs for unison singing arranged by W. Appleby & F. Fowler.

Highly recommended: My History of Music by Irene Gass (Zebra, 30p)

A list of records and cassettes, recommended as 'Music for Enjoyment', can be obtained from the PNEU on request.

PHYSICAL EDUCATION

Daily exercise, e.g. walking, swimming, dancing, skipping and games.

Music and Movement records (EMI 7EG 8727 and 8) can be obtained from Harrods (Export Department).

Better Swimming by N.W. Sarsfield (E.P., 30p)

APPENDICES

1. Educational Materials

- 3-6 lined exercise books for English
- 3-6 lined or plain exercise books for Maths
- 2 squared exercise books (6mm squares) for Maths
- 2 plain exercise books for Geography
- or

- 12 folders
- 5 pads lined paper
- 5 pads plain paper
- 2 pads squared paper
- pad of graph paper
- Tags for folders

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- Kitchen or sugar paper
- 2 pads cartridge paper

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- Pencils — lead and coloured
- Felt-tipped pens
- Fountain pen preferably with an italic nib
- Ink or cartridges
- Spare nibs
- Ruler — cm and mm
- Set squares — 45° and 60°
- Protractor
- Pair of compasses
- Pencil sharpener
- Rubber
- Poster paints
- Water colours
- Brushes for above
- Gummed coloured squares
- Adhesive
- Cold Water Paste (Polycell)
- Magnifying glass
- Scissors
- Paper fasteners
- Magnetic compass (pocket type)
- Lens (convex or concave)
- Bar magnet
- Calendar
- Electrical equipment e.g. switch, wire, batteries, bulb-holder

Optional

- Wire
- String
- Double punch
- Torch
- Sellotape
- Simple microscope and slides
- Measured container (e.g. litre jar)
- Musical instrument (e.g. string or woodwind)
- Camera

Collect

- (for Art and Craft)
- Coloured pictures from magazines

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Oddments of material
Containers and boxes
(for project work, illustrating notes & time chart)
Picture cards
Postcards
Stamps
Mechanisms, e.g. old clocks, watches, locks etc.

2. Music for Enjoyment (P.5.)

We shall be pleased to send on request a list of records and cassettes compiled under the following headings:

Quiet, Dignified Music
Lively, Tuneful Music
Descriptive Music
Stories in Music

3. Reference Books

A list of reference books will be sent on request. Though really meant for older children, it will serve to lay the basis of a reference library to be used as the child grows.

4. Charlotte Mason's Educational Principles

The PNEU was founded in 1891 by Charlotte Mason and based its work on principles worked out by her several years earlier when teaching young children. They are still quite valid and, though modern knowledge permits refinements in theory and method, they are set out below as a guide to the PNEU system.

1. Children are born persons.
2. They are not born good or bad, but with possibilities for good or for evil.

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3. Authority and obedience are necessary but must be limited by the respect due to the personality of children which must not be encroached upon.
4. We are thus limited to three educational instruments: the atmosphere of environment, the discipline of habit and the presentation of living ideas from which arises the PNEU motto: Education is an atmosphere, a discipline and a life.
5. *Education is an atmosphere* means that a child should not be isolated in a specially adapted "child environment" but we should take into account the educational value of his natural home atmosphere and let him live freely among his proper conditions.
6. *Education is a discipline* means the discipline formed definitely and thoughtfully, of mind or body.
7. *Education is a life* means the need of intellectual, moral and physical sustenance.
8. The child's mind is no mere receptacle as the Herbartian doctrine says but is rather a spiritual *organism* with an appetite for all knowledge.
9. *Education is the science of relations*, i.e. a child has natural relations with a vast number of things and thoughts.
10. A syllabus must therefore include three points:
 - (a) A child requires much knowledge, for the mind needs sufficient food as much as the body.
 - (b) The knowledge should be various to satisfy curiosity.
 - (c) Knowledge should be communicated in well-chosen language because his attention responds naturally to what is conveyed in literary form.
11. The educability of children is normally greater than has hitherto been supposed and is but little dependent upon circumstances such as heredity and environment.
12. There are two guides to moral and intellectual self management to offer to children; the way of the will and the way of the reason.
13. Children should be taught as they become mature enough to understand such teaching that the responsibility that rests on them as "persons" is the acceptance or rejection of ideas.
14. No separation between the intellectual and spiritual life of children can be allowed to develop.

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Parents' National Educational Union

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THE PNEU SCHOOL

EDUCATIONAL PROGRAMME 87

This Programme is designed for use only with pupils in PNEU Schools and in the Home Education Division. It must not be lent or used for any other purpose.

"Children are born persons" – Charlotte Mason
PNEU Motto: "I am, I can, I ought, I will"

GENERAL NOTES

CONTENTS

This Programme sets out the syllabuses and book lists for the year. The Teacher's Handbook is complementary to it and should be studied before the Programme is put into use.

Essential books are printed in capitals. Other books are optional but would be valuable for supplementary or reference purposes.

The Programme for each form is planned to cover one year's work, divided into 3 terms of 12 weeks each. As enrolments occur throughout the year, new members will normally begin with Term 1 and complete an assessment report on Form R5 before beginning Term 2.

SUPPLIES

Books

An adequate range of books is essential for the PNEU course. The initial

books required will be supplied by PNEU tutors and despatched to members overseas by surface mail or, if requested, by air mail. The appropriate postal and handling charges will be debited. Members going abroad are advised that books should be obtained before departure if possible.

Subsequent requirements of books may be ordered from the PNEU by post on Form R7. 25% of the cost of the books should be added to the payment for postage and handling if sent by surface mail, and 75% if required to be sent by air mail.

Members may find that some books are unobtainable and alternatives will be sent in their stead.

The price given in the Programme is that in force at the time of going to press.

Materials

A list of the educational materials required is set out in Appendix 1. They may be obtained from any firm of educational suppliers. Harrods (Export Department) would be able to supply most of the requirements.

Families going overseas are recommended to obtain these materials before departure.

THE TEACHER'S HANDBOOK

This is a condensed guide to the theory and practice of home teaching which should be used in conjunction with this Programme. It contains advice on how to understand the growing child as well as on how to teach him. Each subject is dealt with in a separate section. It has been kept brief so that even the busy parent can study it.

ASSISTANCE IN TEACHING

The circumstances under which home teaching takes place vary enormously. Parents are advised to seek assistance from friends and colleagues wherever it is appropriate. Not only is a subject or a hobby taught by another person a welcome change but real ability can in this way be harnessed, whether it be mathematical, technical or musical.

THE CURRICULUM

The PNEU course deliberately covers a broad range of subjects. Our aim is to produce soundly educated children who will develop into mature, cultured adults. The PNEU child is marked by a high standard of literacy, mathematical competence, a wide field of knowledge and an enquiring mind.

In Year 8 a pupil cannot be expected to study the textbooks for himself. In a school this would not be expected of him except for short periods of private study. The parent must act as a teacher and be ready to spend time on such matters as preparing lessons, answering questions or helping the pupil to find the answer and correcting work the pupil has done.

If at all possible, specialist help should be obtained for Mathematics and Science. There is little to be gained from embarking on Science if suitable facilities are not available.

THE PNEU JOURNAL

The PNEU Journal is issued quarterly and contains articles of general educational interest as well as information on PNEU.

RECORDS

In the United Kingdom, local education authorities are required to satisfy themselves that the education of all the children in their area is adequate. Parents responsible for home-school pupils must keep a Record of Work and an Attendance Register as they may receive visits from LEA Inspectors or Education Welfare Officers. In some other countries similar conditions may be encountered.

SYLLABUS

RELIGIOUS KNOWLEDGE

Use any edition of the BIBLE. The New English Bible and other modern translations are particularly appropriate.

THE ONE VOLUME BIBLE COMMENTARY by William Neil (Hodder, 95p) is recommended, especially for help with work done on the Old Testament.

Modern translations of the Bible: The New English Bible — illustrated edition (British and Foreign Bible Society, £1.00). The Jerusalem Bible — School Edition (Darton, Longman & Todd, £2.00).

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TIME-TABLE

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9.00 – 9.40	Old Testament	New Testament	Latin or English Language	History	English Language
9.40 – 10.20	English Language	English Language	History	English Language	Geography
10.20 – 11.00	Mathematics	Mathematics	Mathematics	Mathematics	Mathematics
11.00 – 11.20	B R E A K				
11.20 – 12.00	Science	Geography	French or Leisure Reading	French or Private Study	Latin or Leisure Reading
12.00 – 12.40	Science	Literature	Geography	Literature	Literature
12.40 – 13.20	French or Science	History	Old Testament	New Testament	History
14.00 – 14.40	Music	Picture Study	Music	Games	P.E.
14.40 – 15.20	Art & Design	P.E.	Nature Study	Science	Private Study
15.20 – 16.00	Art & Design	P.E.	Private Study	Science	Private Study

Old Testament

Term 1: Exodus chapters 16-24

Term 2: Numbers chapters 10-14 & 22-24

Deuteronomy chapters 31-34

Term 3: I Samuel 16-31

Ruth

New Testament

Term 1: Acts chapters 1-9

Term 2: Acts chapters 10-18

Term 3: Acts chapters 19-28

ENGLISH

Language

THE ART OF ENGLISH (CERTIFICATE SERIES) BOOK 2 by K. Newson
(Schofield & Sims, £1.59)

or THE ART OF ENGLISH (GENERAL SERIES) BOOK 2 by R. Mansfield
(Schofield & Sims, £1.59)

The Art of English series comprises two complete but closely integrated courses which are designed in such a way that a transfer from one course to the other is possible if this is felt to be in the pupil's interest.

The Certificate Course (C) is suitable for the pupil with imagination and an interest in literature. Throughout the books there are suggestions for further reading and research to develop language skills.

The General Course (G) is very similar but is meant for the pupil who prefers a practical rather than a literary approach to English.

About six chapters a term should be worked through, whichever book is chosen. There is no need to feel that all the exercises ought to be attempted. Some will be obviously unsuited to those in the home schoolroom and some may be too long for the time available. A selection can be made of those considered most interesting.

For reference: The Concise Oxford Dictionary (Oxford, £4.75).

For spelling practice where this is considered necessary:

Essentials in Teaching and Testing Spelling by F.J. Schonell (Macmillan, 59p)

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Literature

Set Fiction

Choose at least two books a term.

- Term 1: THE LOAD OF UNICORN by Cynthia Harnett (Puffin, 55p)
 KING SOLOMON'S MINES by H. Rider Haggard (Puffin, 50p)
 TALES OF ANCIENT EGYPT by Roger Lancelyn Green (Puffin, 40p)
- Term 2: THE EAGLE OF THE NINTH by Rosemary Sutcliff (Puffin, 65p)
 SMITH by Leon Garfield (Puffin, 50p)
 VIKING'S DAWN by Henry Treece (Puffin, 40p)
- Term 3: KNIGHT CRUSADER by Ronald Welch (Oxford, 30p)
 I AM DAVID by Anne Holm (Puffin, 45p)
 A COLD WIND BLOWING by Barbara Willard (Puffin, 50p)

Poetry

POEMS FOR PLEASURE, BOOK 1 edited by A. F. Scott (Cambridge, £1.71)

Shakespeare plays — for Schools only

- Term 1: Richard II
 Term 2: The Taming of the Shrew
 Term 3: The Winter's Tale

Leisure Reading

- The Moon in the Cloud by Rosemary Harris (Puffin, 50p)
 Simon by Rosemary Sutcliff (Oxford, £1.40)
 The Cloud with the Silver Lining by C. Everard Palmer (Puffin, 25p)
 The Marsh King by C. Walter Hodges (Puffin, 60p)
 Snow Cloud, Stallion by Gerald Raftery (Puffin, 40p)
 Little Women by Louisa M. Alcott (Puffin, 60p)

MATHEMATICS

NEW GENERAL MATHEMATICS, BOOK 2 by Channon, McLeish Smith & Head (with answers) (Longman, £1.12).

- Term 1: chapters 1-9
 Term 2: chapters 10-18
 Term 3: chapters 19-26

Read the explanations and go through the worked examples in the chapters before doing the exercises even if you think you are familiar with the topic covered.

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The following notes point out the common errors and difficulties which can arise.

Chapter 1. The rule for the multiplication of numbers with indices: $x^m \times x^n = x^{m+n}$ only applies when the base numbers are the same. It is not true to say $y^m \times x^n = (yx)^{m+n}$. You cannot simplify $y^m x^n$ any further. This also applies to division: $x^m \div y^n$ cannot be simplified.

Chapter 2. Remember when you remove brackets to multiply everything inside the bracket by the factor outside: also watch out for negative signs outside which will change all signs inside. Example: $-4y(2x - 3y) = -8yx + 12y^2$

Chapter 3. Learn the conditions for congruent triangles. Notice you must always have at least one pair of equal sides for congruent triangles. (AAA) is not a condition for congruent triangles but only for similar triangles. In the condition (SAS) the equal angles must be those INCLUDED between the given sides. SSA is not a condition for congruent triangles. This is because if you are given the dimensions of a triangle and the angle is not included e.g. $AB = 7\text{cm}$, $AC = 8\text{cm}$, $\angle B = 30^\circ$, then two triangles of different shapes can be drawn to fit the data. Try this for yourself.

Chapter 4. Read carefully the advice on page 36. A construction will be good not only because the method is correct, but because it is done with thin clear construction lines and axes. Unless the question specifies otherwise, you should describe briefly how you did your construction.

Chapters 5 & 6. Simple interest is another use of percentages. The principal, or money invested, forms the basic 100%. When you use the formula $I = \frac{PRT}{100}$, T must be years, and any time in months must be put as a fraction of a year.

Chapter 7. Solutions for travel graphs are found from the graph only, as the accuracy of your results will depend on your accuracy in drawing thin, unblurred lines. Remember to mark your scales and to label your axes saying what they represent. Choose a sensible scale that can be easily read without involving fractions of a minute.

Chapter 8. You will need a good deal of practice to be able to expand and factorise expressions accurately, so do not leave out any of the examples.

It is useful to remember when you want to put an expression into brackets that if the last sign of the expression is positive, then the signs in the brackets are the same and take the sign of the middle term in the expression.

If the last term is negative then the signs in the brackets are different.

Example: $x^2 - 5x + 4$ has the last sign positive and the middle sign negative, so the factors are $(x - 4)(x - 1)$.

$x^2 + 5x + 4$ has the last sign positive and the middle sign positive, so the factors are $(x + 4)(x + 1)$

$x^2 - 5x - 14$ has the last sign negative so the factors are $(x - 7)(x + 2)$.

Chapter 9. A vector is simply a set of numbers put into a certain pre-arranged order so that they convey information. I can make them represent anything I please, provided they keep to the rules I set down for them in the first place.

Example: (6.8.76) is the vector representing a date: 6 represents the day, 8 the month and 76 the year. A reader will understand what I mean providing I keep to that vector. If I write (8.6.76) it will no longer mean the same date, although I still mean to say "the sixth of August". In the same way (3,2) can mean the co-ordinates of a point P, or it can mean the displacement that has to take place from a given point. It must be clear in your solution what you want your vector to represent.

Chapter 10. Some of the graphs you will draw here may be curves and not straight lines. You need at least seven points to get a good idea of the shape of the graph. Do not attempt to join them up by a series of straight lines. You must join them up free-hand with a single, smooth curve through the points.

Chapter 11. The properties of parallelograms are proved mainly from congruent triangles so revise page 21 before doing this work.

Chapter 12. No special points to be noted.

Chapter 13. The purpose of drawing histograms and bar-charts is to present information clearly and unambiguously. Therefore your diagrams must be clearly named and the scales marked. The bar-charts must have equal widths for the same size of class intervals. The interquartile range gives an idea of what the "average" members of the distributions are doing.

Chapters 14 & 15. No special points to be noted.

Chapter 16. You will find it easy to write out the proportional sides of similar triangles correctly if you write the angles that are equal in the two triangles in the same order for the names of the triangles.

Example if in triangles ABC, $\angle A = \angle P$, $\angle B = \angle R$ then triangles ABC, PBQ are similar, and $\frac{AB}{PR} = \frac{BC}{BQ} = \frac{AC}{PQ}$

Chapter 17. Before starting your calculation, look at the question carefully to find the method that will take the least amount of work. If the triangle is one in which the side you want to find is opposite the given angle, use the tangent. If the side is adjacent to the angle, use the cotangent. It will not be incorrect if you interchange them, but the work will be harder.

Chapter 18. You will find this work faster to do if you learn by heart the square roots of the first few numbers which have exact square roots, such as $\sqrt{4} = 2$, $\sqrt{9} = 3$, $\sqrt{16} = 4$, $\sqrt{25} = 5$ etc.

Chapter 19. This chapter puts together the different type of factors. These can be classified in general as follows:

(a) Expressions with TWO terms only:

(i) take out a common factor if possible: Example:
 $7x + 14 = 7(x + 2)$

(ii) the 'difference of two squares': Example:
 $4 - 9x^2 = (2 - 3x)(2 + 3x)$

(b) Expressions with THREE terms:

(i) put into two brackets: Example:
 $x^2 + 5x + 6 = (x + 2)(x + 3)$

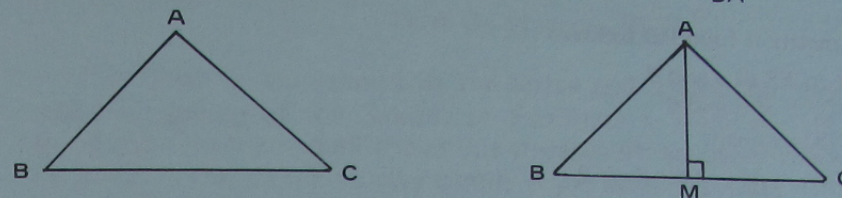
(ii) take out a common factor if possible: Example:
 $2x^2 + 10x + 12 = 2(x + 2)(x + 3)$

(c) Expressions with FOUR terms:

group them together till you find a common factor,
Example: $ax + by + bx + ay = a(x + y) + b(x + y)$
 $= (a + b)(x + y)$

The question could be a combination of more than one of these general types. Try and decide what sort you have to deal with before proceeding with the work.

Chapter 20. The definition $\sin A = \frac{\text{opposite side}}{\text{hypotenuse}}$ only applies to a triangle which contains a right angle. If your diagram does not contain a right angle then you must try to construct one. Example: in the triangle ABC, $\sin B$ is not $\frac{AC}{BA}$. There is no right angle in the triangle.



But if we draw AM, then $\sin B = \frac{AM}{BA}$

Notice that when using Sine tables the 'difference' must be added to your value, but it is subtracted for values in the cosine tables.

Chapter 21. Matrices like vectors are a set of numbers set out in a given order to impart information. Your time-table for the week could be called a matrix — the columns tell you the vector in which you must do the lessons on a particular day. The rows tell you which are the first, second lessons, etc. on each day.

You cannot alter the position of the numbers in the matrix without altering the meaning. Do not omit the brackets round a matrix, as this is the symbol that it is a matrix.

If a matrix has 3 rows and 2 columns it is called a 3 by 2 matrix. This is its ORDER. In the order, the number of rows is always stated first. A 3 by 2 matrix is not the same as a 2 by 3 matrix.

Matrices can only be added and subtracted if they are of the same order.

Matrices can only be multiplied under certain conditions. A quick way of deciding whether two matrices A and B can be multiplied is to write the order of the matrices side by side. If the numbers in the middle are the same, then the multiplication can be performed, if they are not the same, it cannot.

Example: $A = \begin{pmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{pmatrix}$ $B = \begin{pmatrix} 6 & 9 \\ 7 & 10 \\ 8 & 11 \end{pmatrix}$

A is of order 2 by 3, B is of order 3 by 2
2 by 3 \longleftrightarrow 3 by 2

The middle numbers are the same and so AB can be found. This is called the 'domino rule' because the orders are placed together like the game of dominoes. This rule will also tell you the shape of the matrix that makes up the answer — the two other numbers give you its order. In our example it will be a 2 by 2 matrix.

To perform the multiplication it will help to remember that you go "along the row and down the column" to form the columns of the new matrix:

$$\begin{pmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{pmatrix} \begin{pmatrix} 6 & 9 \\ 7 & 10 \\ 8 & 11 \end{pmatrix} = \begin{pmatrix} 44 & 107 \\ 107 & 146 \end{pmatrix}$$

The second column is filled by taking the rows of A down the second column of B. The determinant of a matrix is formed by multiplying the elements across the matrix and subtracting:

$\begin{vmatrix} a & b \\ c & d \end{vmatrix}$ has determinant $ad - bc$

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Watch the signs here:

$$A = \begin{pmatrix} 1 & 2 \\ -3 & 2 \end{pmatrix}$$

the determinant is $2 + 6 = 8$ NOT $2 - 6$

The inverse of a matrix is found as follows:

1. change the PLACES of a and d
2. change the SIGNS of b and c
3. divide by the determinant

The inverse of A is $\frac{1}{8} \begin{pmatrix} 2 & -2 \\ +3 & 1 \end{pmatrix}$

You will find matrices easy to manipulate if you follow these basic rules.

Chapters 22 & 23. No special points to be noted.

Chapter 24. Revise Chapter 8 on factors before doing this work. If you have become adept at factorising expressions you will not have any difficulty in applying the results to solving equations.

Chapter 25. No special points to be noted.

Chapter 26. Equations of the type $\frac{2}{x} - \frac{1}{y} = 3$

and $\frac{4}{x} + \frac{3}{y} = 16$ are best dealt with by using new letters

for $\frac{1}{x}$ and $\frac{1}{y}$ e.g. let $\frac{1}{x} = X$ and $\frac{1}{y} = Y$

The equations now become $2X - Y = 3$ and $4X + 3Y = 16$

Solving these in the usual way, $X = 2\frac{1}{2}$ and $Y = 2$

Now find x from $X = \frac{1}{x} = 2\frac{1}{2}$, $\frac{1}{x} = \frac{5}{2}$, $x = \frac{2}{5}$

and in the same way $Y = \frac{1}{y} = 2$ so $y = \frac{1}{2}$

HISTORY

There is a choice between two syllabuses based on two series of books. It is advisable for a pupil to continue with the series used in this class as he progresses through the School unless the book chosen has proved unsuitable for him.

The two syllabuses differ as follows:

— **Syllabus 1** makes use of the Penguin School History of Britain. As the name suggests, this series deals largely with British History.

— **Syllabus 2** makes use of the Longman Secondary Histories. This series also covers the History of Britain but there is a much stronger emphasis on European and Foreign History than in the Penguin books.

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1. MEDIEVAL AND TUDOR BRITAIN by V.E. Chancellor (Penguin, £1.53)

Term 1: chapters 1-7

Term 2: chapters 8-14

Term 3: chapters 15-20

This book is the second in the series and covers the period from Arthur and the coming of the Saxons to Elizabeth I. While it does contain a little European History and a little about voyages of discovery it is largely a History of Britain. The aim is to give pupils some understanding of life in Britain in the Middle Ages and Tudor times for rich and poor alike.

2. THE MIDDLE AGES by R.J. Cootes (Longman, £1.77)

Term 1: parts 1-6

Term 2: parts 7-13

Term 3: parts 14-20

This book is the second in the series and covers the period from the coming of the "English" to the 15th Century. About half the book deals with English History and the other half with events outside England — European and Near-Eastern events. It is a mixture of social and political History designed to give the pupil a comprehensive picture of the period covered.

Teaching

Whichever series is used, the main facts should be taught to the pupil by the teacher. This means the teacher must become familiar with the information before attempting to teach it and, of course, full use should be made of the pictures, drawings, maps and diagrams in the book. At this age a pupil cannot be expected to read and learn from the book unaided, though preliminary reading of the relevant chapter before the lesson may prove useful.

An exercise book, or file, should be kept for the work done from the 'Things to do' (1) or 'Write and find out' (2) sections in the textbook.

Pupils should be encouraged to add their own drawings, plans and written work sparked off by the subject being read about, e.g. a plan of a Medieval village or town or a 'contemporary' account of the killing of Becket.

Where the 'Things to do' or 'Write and find out' sections prove impracticable the teacher should make up more suitable questions.

Some time should be devoted to local History if this is at all possible — ideally linked to local Geography, e.g. visits to museums, places of interest, archaeological sites, remains of former buildings, etc.

GEOGRAPHY

There is a choice between two syllabuses based on two series of books. It is advisable for a pupil to continue with the series used in this class as he progresses through the School unless the book chosen has proved to be unsuitable.

Syllabus 1 is more suitable for pupils with a particular interest and ability in Geography and aims to give adequate preparation for a G.C.E. course at a later date.

Syllabus 2 is of a more general nature and suitable for pupils of moderate ability in this subject but it also gives a good grounding for later examination work.

The books in both series contain numerous maps, diagrams and pictures and the text is interspersed with relevant questions and exercises.

1. THE SOUTHERN CONTINENTS by Honeybone & Roberson (Heinemann, £1.95).

Term 1: chapters I – V

Term 2: chapters VI–XI

Term 3: chapters XII – XVII

This book is the second in the series and continues with the same basic approach as the first book. It covers the regional Geography of the Southern Continents (Africa, South America and Australia), includes some detailed studies of Ordnance Survey maps, and introduces aspects of physical, economic and mathematical Geography.

2. PEOPLE ROUND THE WORLD by E.W. Young (Arnold, £1.47).

Term 1: chapters 1- 5

Term 2: chapters 6-10

Term 3: chapters 11-16

This book is the second in the series and the approach is the same as in the first book, i.e. the 'sample study' where actual people are chosen as representative of certain areas and their various occupations are described so that an impression is built up of the life and work in the country as a whole. The families chosen come from different parts of the world, some very primitive, some highly civilised, and examples from all the major continents are included.

Supplementary Books

(for use with either syllabus)

PHILIPS' VISUAL ATLAS (70p)

FIND THE PLACE IN THE WORLD by J. D. Smith (Philip, 53p)

INTERMEDIATE MAP READING by T. Pickles (Dent, 82p)

Atlas Work

The Atlas is for general reference and when a region is studied it should be located first on the world map and then on the map of the particular continent or country. If a pupil is taught to use the Atlas properly a great deal can be discovered about a region just by studying the relevant map or maps.

The following points may be helpful:

- allowing the pupil time to become familiar with the Atlas so that there is a general impression of how the maps are arranged and therefore how to find what is needed – the world at the front, followed by Europe and the British Isles, Africa in the middle, Australia at the back etc.
- teaching the pupil how to locate places by using the index at the back which gives the page number and the latitude and longitude readings
- explaining that each map has a scale, that this is always indicated and that it varies according to what size of map is required for a particular purpose
- drawing attention to the fact that all maps have titles to explain their purpose
- showing the importance of colour – all maps are coloured for a purpose i.e. each colour means something (blue = water, brown = highland etc.) explaining about political and physical maps and the differences between them

Find the Place in the World will help pupils to become familiar with the Atlas and should be used regularly throughout the year.

Map Reading

There is no set amount for each term so the book should be used as and when required.

The text is self-explanatory and there are plenty of exercises for the pupil to work through.

Unless part of the book has been studied in the previous class it should be studied from the beginning – it would be unsatisfactory to take the topics out of order.

Teaching Geography

At this age pupils must be taught and not left to work through the books unaided. The teacher should read each chapter or section thoroughly and then decide upon the method of instruction e.g. reading with the pupil, telling the pupil, or getting the pupil to read and then discuss, or using a question and answer approach.

Whichever series is used, there are numerous exercises for the pupil to do but, of course, it may not always be practicable or necessary to work through them all.

A file should be kept for the pupil's work and, as well as written work, maps, diagrams and illustrations relevant to the work should be encouraged. The teacher should feel free to set questions other than those given.

Atlas work and map work should be kept separate from the main textbook work. So should any individual project work done by the pupil.

Map work is not meant to be given as much time as the other work so it is not necessary to set aside one lesson each week for it. One lesson every two or three weeks is adequate.

Some time should be devoted to local Geography — especially the study of local Ordnance Survey maps where this is possible. This study can probably be linked with local History. This raises the question of field work in general and for more information on this please see the Teacher's Handbook.

Sketch maps — the ability to draw sketch maps is a technique which pupils should be beginning to acquire. These maps should be large and clear, with a title and neat labelling. Colour should be used, but not overdone, e.g. brown for highland, red dots for towns, blue for rivers etc. However, pupils should not spend hours shading such maps, as this is a waste of time and not good training.

In general, at this level pupils are collecting facts, acquiring knowledge and learning some basic techniques and skills but they are too young to be expected to apply principles.

SCIENCE

Work from **SCIENCE FOR THE 70's BOOK 2** by Mee, Boyd & Ritchie (Heinemann, £2.00) with **TEACHER'S BOOK** (£2.36)

The book contains more than sufficient work for a year and the teacher can afford to be selective, but at least part of each Unit should be attempted — if facilities are available.

Certain experiments are hazardous and should be avoided, or altered in the way suggested. They are experiments 10.1, 10.2, 10.3, 10.4, 10.7 (use sodium

sulphate instead of sodium fluoride); 10.10, 10.15, 10.17 and 12.4 (no mercury); 12.5, 12.6 (no lead carbonate); 12.7 (no barium carbonate); 12.8, 12.9 and 12.10 (use an iron lid instead of asbestos paper); 12.13, 12.15, 12.16, 12.17, 12.18, 12.42, 14.1, 14.2 and 14.27 (use the biuret test instead of Millon's reagent); 14.3, 14.19 to be avoided.

As each Unit is completed, the pupil should attempt any practical test given in the Teacher's Guide and also the appropriate objective test from the Appendix.

or work from **DIVERSITY AMONG LIVING THINGS** (Murray, £1.00)

Pupils should observe the local flora and fauna and keep a nature diary. Overseas members requiring reference books for local use may apply to the Tutor for recommended titles.

FRENCH (optional)

LA LANGUE DES FRANÇAIS, DEUXIÈME LIVRE by J.R. Watson (Harrap, £2.24)

Term 1: lessons 4- 6

Term 2: lessons 7- 9

Term 3: lessons 10-12

or **A SECOND FRENCH BOOK** by W.F.H. Whitmarsh (Longman, £1.00)

Term 1: lessons 9-16

Term 2: lessons 17-23

Term 3: lessons 24-30

If a dictionary or further reading matter is required please apply to the School for advice.

LATIN (optional)

THE APPROACH TO LATIN, FIRST PART by J. Paterson & E. Macnaughton (Oliver & Boyd, £1.12)

Term 1: pp. 145-174

Term 2: pp. 175-208

Term 3: pp. 208-239

For reference: **The Revised Latin Primer** by B.H. Kennedy (Longman, 71p)

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PICTURE STUDY

One artist will be studied each term. Reproductions of pictures by the artist for the term are obtainable from the PNEU Office (PNEU, £1.00 each).

For general approach and method of taking lessons see the Picture Study section in the Teacher's Handbook.

ART & DESIGN

Sketching, painting, printing and craftwork, using a variety of media should be encouraged.

See the Teacher's Handbook for advice on this subject. If a pupil has developed a special interest in some aspect of Art & Design and needs advice on improving technique please apply to the School for suitable books.

MUSIC

Music Appreciation (optional)

The work of the composer set for the term:

Term 1: Beethoven

Term 2: Handel

Term 3: Schubert

Teacher's reference notes for each composer are available from the PNEU on request.

A list of records and cassettes, recommended as 'Music for Enjoyment' can be obtained from the PNEU on request.

Singing is always to be encouraged. If song books are required please apply to the School for suitable titles.

Where possible a pupil should learn to play some musical instrument.

PHYSICAL EDUCATION

Daily exercise, dancing, games and swimming.

Better Swimming by N.W. Sarsfield (E.P., 30p)

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APPENDICES

1. Educational Materials

- 3-6 lined exercise books for English
- 3-6 lined or plain exercise books for Maths
- 2 squared exercise books for Maths (6mm squares)
- 2 plain exercise books for Geography

or

- 12 folders
- 5 pads of lined paper
- 5 pads of plain paper
- 2 pads of squared paper
- pad of graph paper
- Tags for folders

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- Kitchen or sugar paper
- 2 pads cartridge paper
- Pencils — lead and coloured
- Felt-tipped pens
- Fountain pen preferably with an italic nib
- Ink or cartridges
- Spare nibs
- Ruler -cm and mm
- Set squares — 45° and 60°
- Protractor
- Pair of compasses
- Pencil sharpener
- Rubber
- Poster paints
- Water colours
- Brushes for above
- Gummed coloured squares
- Adhesive
- Cold water paste (Polycell)
- Magnifying glass

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Scissors
Paper fasteners
Magnetic compass (pocket type)
Lens (convex or concave)
Bar magnet
Calendar
Electrical equipment e.g. switch, wire,
batteries, bulb-holder

Optional

Wire
String
Double punch
Torch
Sellotape
Simple microscope and slides
Measured container (e.g. litre jar)
Musical instrument
Camera

Collect

(for Art & Design)
Coloured pictures from magazines
Oddments of material
Containers and boxes

2. Music for Enjoyment (P.5.)

We shall be pleased to send on request a list of records and cassettes compiled under the following headings:

Quiet, Dignified Music
Lively, Tuneful Music
Descriptive Music
Stories in Music

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3. Reference Books

A list of reference books will be sent on request. Though really meant for older children, it will serve to lay the basis of a reference library to be used as the child grows.

4. Charlotte Mason's Educational Principles

The PNEU was founded in 1891 by Charlotte Mason and based its work on principles worked out by her several years earlier when teaching young children. They are still quite valid and, though modern knowledge permits refinements in theory and method, they are set out below as a guide to the PNEU system.

1. Children are born persons.
2. They are not born good or bad, but with possibilities for good or for evil.
3. Authority and obedience are necessary but must be limited by the respect due to the personality of children which must not be encroached upon.
4. We are thus limited to three educational instruments: the atmosphere of environment, the discipline of habit and the presentation of living ideas from which arises the PNEU motto: Education is an atmosphere, a discipline and a life.
5. *Education is an atmosphere* means that a child should not be isolated in a specially adapted "child environment" but we should take into account the educational value of his natural home atmosphere and let him live freely among his proper conditions.
6. *Education is a discipline* means the discipline formed definitely and thoughtfully, of mind or body.
7. *Education is a life* means the need of intellectual, moral and physical sustenance.
8. The child's mind is no mere receptacle as the Herbartian doctrine says but is rather a spiritual *organism* with an appetite for all knowledge.
9. *Education is the science of relations*, i.e. a child has natural relations with a vast number of things and thoughts.
10. A syllabus must therefore include three points:
 - (a) A child requires much knowledge, for the mind needs sufficient food as much as the body.

continued overleaf

- (b) The knowledge should be various to satisfy curiosity.
 - (c) Knowledge should be communicated in well-chosen language because his attention responds naturally to what is conveyed in literary form.
11. The educability of children is normally greater than has hitherto been supposed and is but little dependent upon circumstances such as heredity and environment.
 12. There are two guides to moral and intellectual self management to offer to children; the way of the will and the way of the reason.
 13. Children should be taught as they become mature enough to understand such teaching that the responsibility that rests on them as "persons" is the acceptance or rejection of ideas.
 14. No separation between the intellectual and spiritual life of children can be allowed to develop.